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## **CLAIMS**

1. A MUC1 chimeric protein comprising a first polypeptide sequence and a second polypeptide sequence, wherein said first polypeptide sequence is a MUC1-EC polypeptide and said second polypeptide sequence is a human immunoglobulin FC polypeptide or a human albumin polypeptide.

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- 2. The MUC1 chimeric protein of claim 1, wherein said MUC1-EC polypeptide is selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 17, SEQ ID NO: 19, SEQ ID NO: 21, SEQ ID NO: 23, SEQ ID NO: 25, SEQ ID NO: 27, SEQ ID NO: 29 and SEQ ID NO: 31.
- 3. The MUC1 chimeric protein of claim 1, wherein said MUC1-EC polypeptide binds dermcidin, Y-P30 peptide, or PLU-1.
  - 4. The MUC1 chimeric protein of claim 1, wherein said human immunoglobulin FC polypeptide is a human IgG FC polypeptide.
- 20 5. The MUC1 chimeric protein of claim 4, wherein said IgG FC polypeptide is a IgG1 or IgG2 FC polypeptide.
- 6. The MUC1 chimeric protein of claim 4, further comprising a second MUC1 chimeric protein comprising a human immunoglobulin FC polypeptide, wherein said MUC1 chimeric protein of claim 4 and said second MUC1 chimeric protein form a dimer by means of disulfide bridge formation between the hinge region of the human immunoglobulin FC polypeptide of said MUC1 chimeric protein of claim 4 and the hinge region of the human immunoglobulin FC polypeptide of said second MUC1 chimeric protein.
- 7. The MUC1 chimeric protein dimer of claim 6, wherein said MUC1 chimeric protein dimer comprises two different MUC1-EC polypeptides.
  - 8. The MUC1 chimeric protein of claim 1, wherein said MUC1 chimeric protein is a fusion protein.

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9. A pharmaceutical composition comprising the MUC1 chimeric protein of claim 1 and a pharmaceutically acceptable carrier.

5 10. A method of inhibiting the proliferation of a MUC1-expressing cancer cell comprising contacting said MUC1-expressing cancer cell with an effective amount of a MUC1 chimeric protein comprising a first polypeptide sequence and a second polypeptide sequence, wherein said first polypeptide sequence is a MUC1-EC polypeptide and said second polypeptide sequence is a human immunoglobulin FC polypeptide or a human albumin polypeptide.

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- 11. A method of killing a MUC1-expressing cancer cell comprising contacting said MUC1-expressing cancer cell with an effective amount of a MUC1 chimeric protein comprising a first polypeptide sequence and a second polypeptide sequence, wherein said first polypeptide sequence is a MUC1-EC polypeptide and said second polypeptide sequence is a human immunoglobulin FC polypeptide or a human albumin polypeptide.
- 12. The method of claim 11, further comprising contacting said MUC1-expressing cancer cell with an effective amount of a chemotherapeutic agent.
- 20 13. The method of claim 11, further comprising exposing said MUC1-expressing cancer cell with an effective amount of ionizing radiation.
- 14. A method of treating cancer in a patient comprising administering an effective amount of MUC1 chimeric protein comprising a first polypeptide sequence and a second polypeptide sequence, wherein said first polypeptide sequence is a MUC1-EC polypeptide and said second polypeptide sequence is a human immunoglobulin FC polypeptide or a human albumin polypeptide.

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